

Determination of gentamicin with an amperometric enzyme immunosensor

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Abstract

A new version of enzyme immunoassay with the use of an amperometric immunosensor was proposed for the determination of an aminoglycoside antibiotic gentamicin. The biosensing part of the enzyme immunosensor simultaneously incorporates immobilized enzyme cholinesterase and antibodies against gentamicin. The detection limit for gentamicin in this method is 1×10^{-9} mg/mL. The time of determination is no longer than 20 min. The stability constants of the immunocomplex and the kinetic parameters of the enzymatic reaction in its presence were determined. Gentamicin was determined in samples of pharmaceutical preparations and foodstuffs (milk).

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